

YP-US04017CT(711) SEQUENCE ver 2.txt
SEQUENCE LISTING

JC05 Rec'd PCT/PTO 05 OCT 2005

<110> Yamanouchi Pharmaceutical Co., Ltd.
Keio University
Yasunaga, Kunio
Yamaji, Noboru
Suda, Toshio
Oike, Yuichi

<120> Method of screening antiobesity agents and animal model of obesity

<130> YK0417PCT711

<150> JP 2003-163016

<151> 2003-06-06

<150> JP 2004-111500

<151> 2004-04-05

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<170> PatentIn version 3.1

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His His Gly Gly His Tyr Arg Ser Arg Tyr Gln Asp Gly Val Tyr Trp
415 420 425

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80 85 90

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cat cgt ggg ggc tgg tgg tac cat gcc tgt gcc cac tct aac ctc aat	1248
His Arg Gly Gly Trp Trp Tyr His Ala Cys Ala His Ser Asn Leu Asn	
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gga gta tgg tat cat gga ggt cat tac cgg agc cga tac cag gac ggg	1296
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Val Tyr Trp Ala Glu Phe Arg Gly Gly Ala Tyr Ser Leu Lys Lys Ala	
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Thr Arg Leu Gly Gln Leu Arg Ala Gln Leu Gln Gln Glu Ala Arg Ala
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 Pro Ser Ser Leu Leu Pro Thr Gly His Leu Ala Val Pro Thr Arg Pro
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 Val Gly Pro Trp Arg Asp Cys Ala Glu Ala His Gly Ala Gly His Trp
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 Gln Ser Gly Val Tyr Asp Leu Arg Leu Gly Arg Arg Val Val Ala Val
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 250 255 260
 Arg Gln Asp Gly Ser Val Asn Phe Phe Thr Asn Trp Gln His Tyr Lys
 265 270 275 280
 Ala Gly Phe Gly Arg Pro Glu Gly Glu Tyr Trp Leu Gly Leu Glu Pro
 285 290 295
 Val His Gln Val Thr Ser Arg Gly Asp His Glu Leu Leu Ile Leu Leu
 300 305 310
 Glu Asp Trp Gly Gly Arg Ala Ala Arg Ala His Tyr Asp Ser Phe Ser
 315 320 325
 Leu Glu Pro Glu Ser Asp His Tyr Arg Leu Arg Leu Gly Gln Tyr His
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 Gly Asp Ala Gly Asp Ser Leu Ser Trp His Asn Asp Lys Pro Phe Ser
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 ctacaaggtg tgtgcttgtg gtgggggtgt cagagactgc tgggcagaga ggacgcccc 240

YP-US04017CT(711) SEQUENCE ver 2.txt

accctcttcc tcctaccctt ccaggcgggc ttgggcgtc cagaaggaga atactggctg	300
ggcctggaac ctgtgcatca ggtgacaagc cgtggggacc acgagctgct gatactccta	360
gaggactggg ggggccgtgc agcacgcgcc cactacgaca gcttctcctt ggagcctgag	420
agtgaccact accgtctgcg gcttggccag taccacggcg atgccggaga ctccctctct	480
tggcacaatg acaaaacctt tcagcactgt ggatagggac agagactcat attctg	536

<210> 9
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 9
 agaggctatt cggctatgac 20

<210> 10
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 10
 caccatgata ttcggcaagc 20

<210> 11
 <211> 20
 <212> DNA
 <213> Mus musculus

<400> 11
 tggcctctgt tatcatgctc 20

<210> 12
 <211> 20
 <212> DNA
 <213> Mus musculus

<400> 12
 ctacctacat ccactcctac 20

<210> 13
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: an artificially synthesized primer sequence

YP-US04017CT(711) SEQUENCE ver 2.txt

<400> 13
agaagcttca ccatggggac cgccaggcta c 31

<210> 14
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 14
ccgtcgacat tagatcttca caagcgacaag ccgggtc 39

<210> 15
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Sequence containing loxP

<400> 15
gatccggaac ccttaatata acttcgtata atgtatgcta tacgaagtta ttaggtccct 60
cgacctgcag cccgggggat c 81

<210> 16
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 16
aattaaccct cactaaagg 20

<210> 17
<211> 20
<212> DNA
<213> Mus musculus

<400> 17
cccactacga cagcttctcc 20

<210> 18
<211> 20
<212> DNA
<213> Mus musculus

<400> 18
agccgggtca acataacagc 20

YP-US04017CT(711) SEQUENCE ver 2.txt

<210> 19
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: an artificially synthesized primer sequence

 <400> 19
 gcgttaccca acttaatcg 19

 <210> 20
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: an artificially synthesized primer sequence

 <400> 20
 tgtgagcgag taacaacc 18

 <210> 21
 <211> 22
 <212> DNA
 <213> Mus musculus

 <400> 21
 tcgtgtagta gccgtgtggt gt 22

 <210> 22
 <211> 20
 <212> DNA
 <213> Mus musculus

 <400> 22
 cacctgatgc acaggttcca 20

 <210> 23
 <211> 19
 <212> DNA
 <213> Mus musculus

 <400> 23
 tggttgatcc tgccagtag 19

 <210> 24
 <211> 20
 <212> DNA
 <213> Mus musculus

 <400> 24
 cgaccaaagg aaccataact 20

 <210> 25

YP-US04017CT(711) SEQUENCE ver 2.txt

<211> 23
 <212> DNA
 <213> Mus musculus

 <400> 25
 ccggtacagt gaaactgcga atg 23

 <210> 26
 <211> 19
 <212> DNA
 <213> Mus musculus

 <400> 26
 acagaaggat tgccgaaac 19

 <210> 27
 <211> 20
 <212> DNA
 <213> Mus musculus

 <400> 27
 agctgatttg cctctgaatg 20

 <210> 28
 <211> 17
 <212> DNA
 <213> Mus musculus

 <400> 28
 cagcggctctg cctgcgg 17

 <210> 29
 <211> 19
 <212> DNA
 <213> Mus musculus

 <400> 29
 catggttgga cttcagccc 19

 <210> 30
 <211> 17
 <212> DNA
 <213> Mus musculus

 <400> 30
 ggcccccagg aacttca 17

 <210> 31
 <211> 22
 <212> DNA
 <213> Mus musculus

 <400> 31
 ccgaagtgcc tcccacaacg gt 22

 <210> 32

YP-US04017CT(711) SEQUENCE ver 2.txt

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<211> 21
<212> DNA
<213> Mus musculus

<400> 32
acgatgctgt cctccttgat g 21

<210> 33
<211> 21
<212> DNA
<213> Mus musculus

<400> 33
gtgtgataaa gccattgccg t 21

<210> 34
<211> 23
<212> DNA
<213> Mus musculus

<400> 34
acaaagacgg gatgctgatc gcg 23

<210> 35
<211> 21
<212> DNA
<213> Mus musculus

<400> 35
gaccctcctc aagtatggcg t 21

<210> 36
<211> 21
<212> DNA
<213> Mus musculus

<400> 36
gtctttgttg acgatggagg c 21

<210> 37
<211> 23
<212> DNA
<213> Mus musculus

<400> 37
cacgaggcca tctttgccat gct 23

<210> 38
<211> 22
<212> DNA
<213> Mus musculus

<400> 38
tgagagggaa atcgtgcgtg ac 22

<210> 39

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YP-US04017CT(711) SEQUENCE ver 2.txt

<211> 22
 <212> DNA
 <213> Mus musculus

 <400> 39
 aagaaggaag gctggaaaag ag 22

 <210> 40
 <211> 18
 <212> DNA
 <213> Mus musculus

 <400> 40
 gatggcacgc agccctat 18

 <210> 41
 <211> 22
 <212> DNA
 <213> Mus musculus

 <400> 41
 cgacacggag agttaaagga ag 22

 <210> 42
 <211> 26
 <212> DNA
 <213> Mus musculus

 <400> 42
 cattgttcga tgtgtcgcct tcttgc 26

 <210> 43
 <211> 19
 <212> DNA
 <213> Mus musculus

 <400> 43
 cggagcgcaa tatgaaggt 19

 <210> 44
 <211> 20
 <212> DNA
 <213> Mus musculus

 <400> 44
 caaaaggaag acgacggagc 20

 <210> 45
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: an artificially synthesized
 primer sequence

 <400> 45

YP-US04017CT(711) SEQUENCE ver 2.txt
aaggtaccag tgatgttcct ctttctatg 29

<210> 46
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 46
tgctagcccg aatgagaaat gagacagaat 30

<210> 47
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 47
taggtaccat acagaatcca gctcaggtg 30

<210> 48
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 48
ttggtacctt ggctggctcc catcctgg 28

<210> 49
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 49
ttggtacctg acctcaggta atccacct 28

<210> 50
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

YP-US04017CT(711) SEQUENCE ver 2.txt

<400> 50
aaggtaccag tcttgtcgcc caggctgga 29

<210> 51
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 51
taggtaccat aaatcacatg taactgagg 29

<210> 52
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 52
agctagccca aactataaat atttagcatt 30

<210> 53
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized primer sequence

<400> 53
aaggtaccaa caaataatta tgtggactca 30

<210> 54
<211> 21
<212> DNA
<213> Mus musculus

<400> 54
gtcttggcct caggcctctg g 21

<210> 55
<211> 24
<212> DNA
<213> Mus musculus

<400> 55
tacctcagtt acatgtgatt tatg 24

<210> 56

YP-US04017CT(711) SEQUENCE ver 2.txt

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<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: an artificially synthesized
        primer sequence

<400> 56
agtcctagaat ggggaccgcc aggctacgca agctgc 36

<210> 57
<211> 28
<212> DNA
<213> Mus musculus

<400> 57
aggagatagg aacacccttg ggggtact 28

<210> 58
<211> 1412
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)..(1374)

<220>
<221> mat_peptide
<222> (73)..(1371)

<400> 58
atg ggg acc gcc agg cta cgc aag ctg caa ctg ctg ctt ctg ctg ggc 48
Met Gly Thr Ala Arg Leu Arg Lys Leu Gln Leu Leu Leu Leu Leu Gly
-20 -15 -10

gct tgg agg gcg ctc gga ggt gcc gcg cgt tgc cgc gtc acc cta gtt 96
Ala Trp Arg Ala Leu Gly Gly Ala Ala Arg Cys Arg Val Thr Leu Val
-5 -1 1 5

ttg tcc ccg cag aag gca act agc gcc gtc tgc agg agc tca gag gcc 144
Leu Ser Pro Gln Lys Ala Thr Ser Ala Val Cys Arg Ser Ser Glu Ala
10 15 20

acc caa gac agc gaa ctg gcc acg ctg cgc atg cgc ctg ggt cgc cac 192
Thr Gln Asp Ser Glu Leu Ala Thr Leu Arg Met Arg Leu Gly Arg His
25 30 35 40

gag gag ctg ctg cgc gcg ctg caa agg cgt gcg gcg gag ggt ggt gcg 240
Glu Glu Leu Leu Arg Ala Leu Gln Arg Arg Ala Ala Glu Gly Gly Ala
45 50 55

ctc gcg gac gag gtg cgc gca ctg cgc gag cac agt ctc acc ctg aac 288
Leu Ala Asp Glu Val Arg Ala Leu Arg Glu His Ser Leu Thr Leu Asn
60 65 70

acg cgc ctg ggc cag ctg cgc gcg caa ttg cag cag gag gcg agg gcg 336
Thr Arg Leu Gly Gln Leu Arg Ala Gln Leu Gln Gln Glu Ala Arg Ala

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75		80		85	
gag cct gac ctg ggg gcg gag cct gct gct gca ctt ggt ttg cta gcc	384				
Glu Pro Asp Leu Gly Ala Glu Pro Ala Ala Ala Leu Gly Leu Leu Ala					
90		95		100	
gag cgc gcg ctg gac gct gag gcc gaa gcg cgc cgg acg acg gca cgc	432				
Glu Arg Ala Leu Asp Ala Glu Ala Glu Ala Arg Arg Thr Thr Ala Arg					
105		110		115	
ctg cag cag ctg gac gca cag ctc cgt gag cat gcg cag ctc atg agc	480				
Leu Gln Gln Leu Asp Ala Gln Leu Arg Glu His Ala Gln Leu Met Ser					
125		130		135	
cag cat agc agc ctc ctc ggc gcg cgt caa cgc gcg tgc gcg ggc ccg	528				
Gln His Ser Ser Leu Leu Gly Arg Leu Gln Arg Ala Cys Ala Gly Pro					
140		145		150	
gaa cgg gga cag cag cag gtc ctg cca ctg ccc ctg gcg cct ctg gtg	576				
Glu Arg Gly Gln Gln Gln Val Leu Pro Leu Pro Leu Ala Pro Leu Val					
155		160		165	
cct ctg agc ctc gtg ggc agt gcc agc aac acc agc agg agg ctg gac	624				
Pro Leu Ser Leu Val Gly Ser Ala Ser Asn Thr Ser Arg Arg Leu Asp					
170		175		180	
caa act cca gag cac cag aga gag cag agc ttg aga cag cag ggg cct	672				
Gln Thr Pro Glu His Gln Arg Glu Gln Ser Leu Arg Gln Gln Gly Pro					
185		190		195	
cca tct tct ctg ctg ccc aca ggc cac ctt gct gtc ccc aca agg cca	720				
Pro Ser Ser Leu Leu Pro Thr Gly His Leu Ala Val Pro Thr Arg Pro					
205		210		215	
gtg ggc cca tgg agg gat tgt gca gag gct cac ggg gca ggt cac tgg	768				
Val Gly Pro Trp Arg Asp Cys Ala Glu Ala His Gly Ala Gly His Trp					
220		225		230	
cag agt gga gtg tat gac ctg cgg ctg ggc cgt cgt gta gta gcc gtg	816				
Gln Ser Gly Val Tyr Asp Leu Arg Leu Gly Arg Arg Val Val Ala Val					
235		240		245	
tgg tgt gaa cag cag cag gaa ggt gga ggc tgg act gtc atc cag aga	864				
Trp Cys Glu Gln Gln Gln Glu Gly Gly Gly Trp Thr Val Ile Gln Arg					
250		255		260	
cgg cag gac ggc tct gtc aac ttc ttc acc aac tgg cag cac tac aag	912				
Arg Gln Asp Gly Ser Val Asn Phe Phe Thr Asn Trp Gln His Tyr Lys					
265		270		275	
gcg ggc ttt ggg cgt cca gaa gga gaa tac tgg ctg ggc ctg gaa cct	960				
Ala Gly Phe Gly Arg Pro Glu Gly Glu Tyr Trp Leu Gly Leu Glu Pro					
285		290		295	
gtg cat cag gtg aca agc cgt ggg gac cac gag ctg ctg ata ctc cta	1008				
Val His Gln Val Thr Ser Arg Gly Asp His Glu Leu Leu Ile Leu Leu					
300		305		310	
gag gac tgg ggg ggc cgt gca gca cgc gcc cac tac gac agc ttc tcc	1056				
Glu Asp Trp Gly Gly Arg Ala Ala Arg Ala His Tyr Asp Ser Phe Ser					
315		320		325	
ttg gag cct gag agt gac cac tac cgt ctg cgg ctt ggc cag tac cac	1104				

YP-US04017CT(711) SEQUENCE ver 2.txt

Leu	Glu	Pro	Glu	Ser	Asp	His	Tyr	Arg	Leu	Arg	Leu	Gly	Gln	Tyr	His		
330						335					340						
ggc	gat	gcc	gga	gac	tcc	ctc	tct	tgg	cac	aat	gac	aaa	cct	ttc	agc	1152	
Gly	Asp	Ala	Gly	Asp	Ser	Leu	Ser	Trp	His	Asn	Asp	Lys	Pro	Phe	Ser		
345					350				355						360		
act	gtg	gat	agg	gac	aga	gac	tca	tat	tct	ggt	aac	tgt	gcc	ctg	tac	1200	
Thr	Val	Asp	Arg	Asp	Arg	Asp	Ser	Tyr	Ser	Gly	Asn	Cys	Ala	Leu	Tyr		
				365					370					375			
cat	cgt	ggg	ggc	tgg	tgg	tac	cat	gcc	tgt	gcc	cac	tct	aac	ctc	aat	1248	
His	Arg	Gly	Gly	Trp	Trp	Tyr	His	Ala	Cys	Ala	His	Ser	Asn	Leu	Asn		
			380					385					390				
gga	gta	tgg	tat	cat	gga	ggt	cat	tac	cgg	agc	cga	tac	cag	gac	ggg	1296	
Gly	Val	Trp	Tyr	His	Gly	Gly	His	Tyr	Arg	Ser	Arg	Tyr	Gln	Asp	Gly		
		395					400					405					
gtc	tac	tgg	gcc	gag	ttc	cgt	ggt	ggg	gcg	tac	tct	ctg	aag	aaa	gct	1344	
Val	Tyr	Trp	Ala	Glu	Phe	Arg	Gly	Gly	Ala	Tyr	Ser	Leu	Lys	Lys	Ala		
	410					415					420						
gtt	atg	ttg	acc	cgg	ctt	gtg	cgc	ttg	tgact	gtccc	atcagt	acccc				1391	
Val	Met	Leu	Thr	Arg	Leu	Val	Arg	Leu									
425					430												
ccaagggtgt	tcctatctcc	t														1412	

<210> 59
 <211> 457
 <212> PRT
 <213> Mus musculus
 <400> 59

Met	Gly	Thr	Ala	Arg	Leu	Arg	Lys	Leu	Gln	Leu	Leu	Leu	Leu	Leu	Gly		
				-20					-15						-10		
Ala	Trp	Arg	Ala	Leu	Gly	Gly	Ala	Ala	Arg	Cys	Arg	Val	Thr	Leu	Val		
			-5				-1	1				5					
Leu	Ser	Pro	Gln	Lys	Ala	Thr	Ser	Ala	Val	Cys	Arg	Ser	Ser	Glu	Ala		
	10					15					20						
Thr	Gln	Asp	Ser	Glu	Leu	Ala	Thr	Leu	Arg	Met	Arg	Leu	Gly	Arg	His		
	25				30					35					40		
Glu	Glu	Leu	Leu	Arg	Ala	Leu	Gln	Arg	Arg	Ala	Ala	Glu	Gly	Gly	Ala		
				45					50					55			
Leu	Ala	Asp	Glu	Val	Arg	Ala	Leu	Arg	Glu	His	Ser	Leu	Thr	Leu	Asn		
			60					65					70				
Thr	Arg	Leu	Gly	Gln	Leu	Arg	Ala	Gln	Leu	Gln	Gln	Glu	Ala	Arg	Ala		
		75					80					85					

YP-US04017CT(711) SEQUENCE ver 2.txt

Glu Pro Asp Leu Gly Ala Glu Pro Ala Ala Ala Leu Gly Leu Leu Ala
90 95 100

Glu Arg Ala Leu Asp Ala Glu Ala Glu Ala Arg Arg Thr Thr Ala Arg
105 110 115 120

Leu Gln Gln Leu Asp Ala Gln Leu Arg Glu His Ala Gln Leu Met Ser
125 130 135

Gln His Ser Ser Leu Leu Gly Arg Leu Gln Arg Ala Cys Ala Gly Pro
140 145 150

Glu Arg Gly Gln Gln Gln Val Leu Pro Leu Pro Leu Ala Pro Leu Val
155 160 165

Pro Leu Ser Leu Val Gly Ser Ala Ser Asn Thr Ser Arg Arg Leu Asp
170 175 180

Gln Thr Pro Glu His Gln Arg Glu Gln Ser Leu Arg Gln Gln Gly Pro
185 190 195 200

Pro Ser Ser Leu Leu Pro Thr Gly His Leu Ala Val Pro Thr Arg Pro
205 210 215

Val Gly Pro Trp Arg Asp Cys Ala Glu Ala His Gly Ala Gly His Trp
220 225 230

Gln Ser Gly Val Tyr Asp Leu Arg Leu Gly Arg Arg Val Val Ala Val
235 240 245

Trp Cys Glu Gln Gln Gln Glu Gly Gly Gly Trp Thr Val Ile Gln Arg
250 255 260

Arg Gln Asp Gly Ser Val Asn Phe Phe Thr Asn Trp Gln His Tyr Lys
265 270 275 280

Ala Gly Phe Gly Arg Pro Glu Gly Glu Tyr Trp Leu Gly Leu Glu Pro
285 290 295

Val His Gln Val Thr Ser Arg Gly Asp His Glu Leu Leu Ile Leu Leu
300 305 310

Glu Asp Trp Gly Gly Arg Ala Ala Arg Ala His Tyr Asp Ser Phe Ser
315 320 325

Leu Glu Pro Glu Ser Asp His Tyr Arg Leu Arg Leu Gly Gln Tyr His

330

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335 340

Gly Asp Ala Gly Asp Ser Leu Ser Trp His Asn Asp Lys Pro Phe Ser
345 350 355 360

Thr Val Asp Arg Asp Arg Asp Ser Tyr Ser Gly Asn Cys Ala Leu Tyr
365 370 375

His Arg Gly Gly Trp Trp Tyr His Ala Cys Ala His Ser Asn Leu Asn
380 385 390

Gly Val Trp Tyr His Gly Gly His Tyr Arg Ser Arg Tyr Gln Asp Gly
395 400 405

Val Tyr Trp Ala Glu Phe Arg Gly Gly Ala Tyr Ser Leu Lys Lys Ala
410 415 420

Val Met Leu Thr Arg Leu Val Arg Leu
425 430